

CALIFORNIA ENERGY COMMISSION

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Sacramento, California 95814

Web Site: www.energy.ca.gov



June 15, 2001

By reason of the attached Presiding Member's Proposed Decision (PMPD), the Application for Certification for the Metcalf Energy Center is hereby recommended for approval.

This application has been unique in three ways: (1) the committed and professional intervention by members of the community not represented by legal counsel; (2) the need to override certain local laws and ordinances; and (3) the politicalization of the Commission's hearing process. A brief comment as to each follows.

Regarding the public participation aspects of this case, the hearing process had 34 formal party intervenors, including two municipalities, the developer of an adjacent campus-style industrial park, and representatives of neighborhood community organizations. The community members were not represented by legal counsel, yet many of such parties spent hundreds of hours on hearings and probably as many in preparation for such. As a matter of law and policy, the Commission has encouraged such participation. However, in circumstances such as were presented by this case, I found the burden on these parties to be extraordinary. I believe in complex cases such as this, the public would be better served by a less formalistic procedure. Recent changes in statute and proposed changes in regulations will permit flexibility in this regard, thus responding to the circumstances of each unique case.

As to the second issue, the PMPD recommends an override of local rules, thus permitting the project to be certified. The recommendation does not come lightly. It is recognized that local land use laws, rules and regulations are among the most important decision-making powers of a city or county government. These responsibilities should be respected by a state agency, as they were in this case. State law permits an override if evidence in the record supports specified findings. I believe such evidence exists. Public convenience and necessity dictate the approval of this project, and the evidence shows there are no more prudent and feasible means of achieving public convenience and necessity. The facts and public policy implications thus support an override. It is recognized, however, that this project is unique as to time and place, and thus there is no reason to believe that this decision will be precedent setting in this regard.

Finally, comment must be made here to the dangers of the politicalization of the Energy Commission licensing process. Government decision-making must be credible if it is to be accepted by the governed. At the local government level, credibility is promoted by the high degree of accountability that local elected officials owe to the general populace. This is especially true in local land use cases. Such direct accountability is absent when decision-making is conducted by appointed state officials. Accordingly, credibility must be earned through a history of fair and unbiased decisions. In order for the Energy Commission's decisions to be accepted by the people, fairness and lack of prejudice must be preserved at all costs.

By law, the Commission's process is quasi-judicial in nature and our licensing decisions must be based solely on the record of the case. Similar to any other judicial proceeding, any perception that our decisions might be based on factors external to the evidence weakens the very foundation of the Commission's credibility.

In the instant case, the State's highest official, publicly and purposefully, issued statements calling for a particular outcome to this case. Such statements have raised the issue of bias and prejudice by the Commission. I do, therefore, represent to all parties in this case that my decision is based solely on the record and I have every confidence that my fellow Commissioners will similarly base their decisions solely on the record, as they are individuals of great integrity.

It is understood that the Governor and members of the Legislature are the truest representatives of the People. Their responsibilities in this regard are awesome and must be respected. Their right and obligation to speak for the People must remain unabridged. However, neither the Executive nor the Legislature is in the position of administering the power plant licensing process. That task has, by law, been delegated to the Energy Commission. I would note that a distinction must be made between executive and legislative oversight of the Commission's licensing process, which is always within legislative and executive jurisdiction and should be strongly encouraged and the involvement of a Chief Executive in a particular case promoting a particular outcome. The People's trust in the Commissioners' process is of paramount import to the success of the Commission's licensing mission. Extreme effort must be made to avoid implications of loss of credibility or trustworthiness.

The views expressed herein represent mine alone.

ROBERT A. LAURIE
Commissioner and Presiding Member
Metcalf Energy Center Siting Committee

*This foreword in no way should be construed as part
of the Proposed Decision for the Metcalf project.*

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

The Committee hereby submits its Presiding Member's Proposed Decision for the Metcalf Energy Center (Docket Number 99-AFC-3). We have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code of Regs., §§1749-1752.5.)

During these proceedings the City of San Jose used the Final Staff Assessment as the documentary equivalent of an Environmental Impact Report. We have reviewed this document, the City's actions, and the additional evidence presented by the Applicant and the other parties in arriving at our recommended Decision. [14 Cal. Code of Regs., / 15025(b)(1).]

We recommend the Application for Certification for the Metcalf Energy Center be approved, subject to the Conditions of Certification set forth herein, and that the Commission grant the Applicant a license to construct and operate the project. In reaching this recommendation, we have concluded that the Metcalf Energy Center will result in no significant adverse impacts if constructed and operated in accordance with our Conditions of Certification. The project will not, however, conform with all applicable local ordinances and standards. We therefore have recommended the Commission exercise its authority under Public Resources Code section 25525 and override these noncompliances.

Dated _____ at Sacramento, California.

ROBERT A. LAURIE, Commissioner
Presiding Committee Member

WILLIAM J. KEESE, Chairman
Associate Committee Member

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF
THE STATE OF CALIFORNIA**

Application for Certification for the
**Metcalf Energy Center (Calpine
Corporation and Bechtel Enterprises, Inc.)**

Docket No. 99-AFC-3

**NOTICE OF AVAILABILITY OF PRESIDING MEMBER'S PROPOSED DECISION
AND
NOTICE OF COMMITTEE CONFERENCE**

I. NOTICE OF AVAILABILITY

The Committee released the Presiding Member's Proposed Decision (PMPD) for the Metcalf Energy Center on June 18, 2001. Copies have been sent to the Proof of Service List, and are also available from the Commission's Publications Unit, 1516 9th Street, MS-13, Sacramento, CA 95814. You may telephone the Publications Unit at (916) 654-5200 and ask for Publication No. P800-01-019. The PMPD may also be viewed on the Commission's Internet Web Site at: www.energy.ca.gov/sitingcases/metcalf

Members of the public and interested governmental agencies may submit written comments on the PMPD. The public comment period ends on July 19, 2001. All comments must be received **no later than 3:00 p.m. on July 19, 2001**, by the Commission's Docket Unit, 1516 9th Street, Sacramento, CA 95814. Identify all comments with Docket No. 99-AFC-3.

II. NOTICE OF CONFERENCE

The Committee will also hold a public Conference to receive comments on the PMPD as follows:

THURSDAY, July 26, 2001
Beginning at 6:00 p.m.
County of Santa Clara
General Services Agency Auditorium
1555 Berger Drive, Building 2
San Jose, California 95112
(Wheelchair Accessible)

Applicant, Staff, and all other formal parties wishing to participate at this Conference must file written comments on the PMPD. These comments shall be served and filed with the Commission's Docket Unit **no later than 3:00 p.m., July 19, 2001**. Members of the general public wishing to participate at this Conference should also submit their written comments by the same date.

Comments should focus on the content of the PMPD, and not restate arguments previously made during the hearing and briefing periods. Depending upon the number of parties and members of the public in attendance at this Conference, the Committee may limit the time available for each presentation.

For information concerning public participation, contact the Commission's Public Adviser, Roberta Mendonca, at (916) 654-4489 or, toll free, at (800) 822-6228; or e-mail: **<pao@energy.state.ca.us>**

Media inquiries should be directed to Claudia Chandler at (916) 654-4989. If you require special accommodations, contact Robert Sifuentes at (916) 654-5004 at least five days prior to the Conference.

Technical questions should be directed to the Commission's Project Manager, Paul Richins, at (916) 654-4074, or email: **<prichins@energy.state.ca.us>**

Questions of a legal or procedural nature should be addressed to Stanley Valkosky, the Chief Hearing Officer, at (916) 654-3893.

Dated on June 18, 2001, at Sacramento California.

ROBERT A. LAURIE, Commissioner
Presiding Member

WILLIAM J. KEESE, Chairman
Associate Member

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INTRODUCTION

These proceedings encompass perhaps the most contested power plant proposal in the Commission's siting experience. In addition to the inherent complexity of placing a facility such as the Metcalf Energy Center (MEC) in an urban area committed and organized local opposition, competing development interests, political rhetoric and posturing, and the heightened public anxiety and debate concerning the State's energy situation have each played a part in elevating the profile and the complexity of this case. Most significant, however, is the factor of failed expectations. It is clear to us that Applicant, and Commission staff, fully expected the City of San Jose to take certain land actions, including annexation and zoning changes, which would have obviated the need for much of the dispute reflected in our record. The City did not.

As a result, we must decide whether or not the overall interests of the State are sufficient to "override" the City's actions. We believe they are and that the record fully supports our decision.

We are aware of the sometimes acrimonious allegations over the propriety of conduct attributed to various parties. We have done, we believe, all that is possible to insulate ourselves from this oftentimes rancorous flurry of accusation and innuendo, and have confined our deliberations to the factual record as developed throughout this process.

We do not expect that anyone will fully endorse all aspects of this Decision. The various positions of the parties and their competing interests simply eliminated achieving a mutually acceptable solution on many issues. We have, however, exerted our best efforts at reasonably resolving all matters, based on the record before us.

Finally, this Decision is based exclusively upon the record established during these certification proceedings and summarized herein. It contains our rationale for concluding that the Metcalf Energy Center may now be licensed. We have independently evaluated the evidence presented, explained our rationale and provided references to the record, and specified the measures required to ensure that the MEC is, to the greatest extent possible, designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

A. SUMMARY OF THE PROPOSED DECISION

As proposed, the MEC would be located partially in the City of San Jose and partially in the County of Santa Clara. The site lies at the southern base of Tulare Hill in the northern Coyote Valley, to the west of Monterey Highway and south of the Metcalf Road intersection. The site is bordered by Fisher Creek to the north and west and the Union Pacific Railroad right-of-way to the east. Blanchard Road is to the south. During the construction phase, Applicant will use a temporary 20-acre construction laydown area adjacent to and south of the proposed power plant site. The site is currently zoned for agricultural uses.

The MEC is a combined cycle, natural gas-fired power plant nominally rated at 600 megawatts. Project construction would likely commence three to four months after certification with capital costs in the range of \$300-400 million. Project construction would create a peak workforce of about 400 over a two-year period; the project will employ 20 permanent operational personnel. Applicant desires to commence commercial operation in time to serve the summer load of 2003. Applicant has consistently represented that it will sell the project's power to the California market.

B. SITE CERTIFICATION PROCESS

The MEC and its related facilities fall within Commission licensing jurisdiction. (Pub. Resources Code, §§ 25500 et seq.). During its licensing proceedings, the Commission acts as the lead state agency under the California Environmental Quality Act (Pub. Resources Code, §§ 25519 (c), 21000 et seq.). The Commission's certification process provides a thorough, timely review and analysis of all aspects of a proposed project. During this process, we conduct a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications.

The Commission's process and associated documents are functionally equivalent to the traditional Environmental Impact Report process. (Pub. Resources Code, § 21080.5.) It is designed to allow review of a project to be completed within a limited period of time; a license issued by the Commission is in lieu of other state and local permits.

Significantly, the Commission's process allows for and encourages public participation so that members of the public may become involved either informally, or on a more formal level as Intervenor with the same legal rights and duties as the project developers. Public participation is encouraged at every stage, and our process requires substantially more opportunities for public participation and review than does the traditional CEQA process. Moreover, as explained in subsequent portions of this document, we have fully and fairly examined the positions formally espoused by various Intervenor and members of the public. On balance, we believe that the participation of the public has resulted in a painstaking scrutiny of the Applicant's proposal, as well as the development of Conditions of Certification which extensively reduce and safeguard against potential project impacts.

The certification process begins when an Applicant submits the Application for Certification (AFC). Commission staff reviews this submission, and recommends to the Commission whether or not the accompanying information is adequate to permit formal review to commence. Once the Commission determines that an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the licensing process.

The initial portion of the certification process is weighted heavily toward ensuring public awareness of the proposed project and obtaining such further technical information as is necessary. The Office of the Public Adviser is available to inform members of the public concerning the certification proceedings, and to assist those interested in participating. During this phase, the Commission staff sponsors numerous public workshops at which Intervenors, agency representatives, and members of the public meet with Staff and Applicant to discuss, clarify, and negotiate pertinent issues. Staff publishes its initial technical evaluation of a proposed project in the Preliminary Staff Assessment (PSA), which is made available for public comment. Staff's responses to public comment on the PSA and its complete analysis are published in the Final Staff Assessment (FSA).

The Committee also conducts various public events, including at least one Prehearing Conference, to assess the adequacy of available information, identify issues, and determine the positions of the various participants. Information gleaned from these events forms the basis for a Hearing Order organizing and scheduling formal Evidentiary Hearings. At these hearings, all formal parties are able to present testimony, under oath or affirmation, which is subject to cross-examination by other parties and to questioning by the Committee. The public may also comment on a proposed project at these hearings. Evidence adduced during these hearings provides the basis for the decision-makers' analysis.

This analysis, in turn, appears in a Committee recommendation to the full Commission in the form of a Presiding Member's Proposed Decision (PMPD), which is available for a public review period of at least 30 days. This document provides the Committee's recommendation to the full Commission concerning a project's ultimate acceptability. The PMPD also determines a project's conformity with applicable laws, ordinances, regulations, and standards. Depending upon the extent of revisions necessary in reaction to comments received on the PMPD, the Committee may elect to publish a revised version. If so, this latter document triggers an additional 15 day public comment period. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

Throughout the licensing process, the members of the Committee, and ultimately the Commission, serve as fact-finders and decision-makers. Other parties, including the Applicant, Commission staff, and formal Intervenors function independently and with legal status equal to one another. An "ex-parte" rule prohibits parties from communicating on substantive matters with the decision-makers, their staffs, or assigned hearing officer unless these communications occur on the public record.

C. PROCEDURAL HISTORY

The Public Resources Code (§§ 25500 et seq.) and Commission regulations (20 Cal. Code of Regs., §§ 1701, et seq.) mandate a public process and specify the occurrence of certain necessary events. The key procedural elements occurring during the present case are summarized below.

On April 30, 1999, the Calpine Corporation and Bechtel Enterprises, Inc. filed an Application for Certification (AFC) seeking approval from the Commission to construct and operate the MEC. On June 23, 1999, the Commission found the AFC to be data adequate, which began Staff's analysis of the project. The

Applicant, Calpine/Bechtel, filed Supplements A, B and C to their AFC on October 1, 1999, October 15, 1999, and February 15, 2000, respectively.

The Committee scheduled its initial public event, an "Informational Hearing and Site Visit," by notice dated June 25, 1999. This notice was sent to all known or expected to be interested in the proposed project, including the owners of land adjacent to, or in the vicinity of, the MEC. Notice was also published in a local general circulation newspaper.

The Committee conducted the Informational Hearing in San Jose on July 12, 1999. At this event, the Committee and other participants discussed the proposed MEC, described the Commission's review process, and explained opportunities for public participation. The parties also toured the site where the MEC will be situated.

Over the course of the next several months, Commission staff held numerous public events to assess the status of the project, including submission of necessary information by Applicant. Staff held the first of its public workshops on August 3, 1999, and continued to hold many more publicly noticed workshops in San Jose on technical areas such as Air Quality, Water Resources, Biological Resources, Project Site Alternatives, and Transmission System Engineering. Several of those workshops were jointly sponsored by Staff and the City of San Jose District 2 Metcalf Energy Center Advisory Committee.

Staff prepared both a Preliminary and Final staff assessment, and conducted a series of workshops in San Jose to discuss findings, proposed mitigation, and proposed compliance monitoring requirements. Six days and four evenings of workshops on the PSA were held in south San Jose during June 2000. During approximately 50 hours of workshops the Applicant, Intervenors, agencies, the public, and Staff discussed the PSA and outstanding issues.

In addition to these and approximately 20 more workshops, extensive coordination occurred with the numerous local, state, and federal agencies that have an interest in the MEC such as the City of San Jose, County of Santa Clara, California Independent System Operator (Cal-ISO), Bay Area Air Quality Management District, U.S. Environmental Protection Agency, the Regional Water Quality Control Board, the U.S. Fish and Wildlife Service, Department of Fish and Game, as well as numerous Intervenors and the interested residents of the community.

The Committee held an initial Status Conference on December 16, 1999, and a second conference on July 19, 2000. The Committee then held a Prehearing Conference on November 30, 2000, the purpose of which was to have a thorough discussion of the process and procedures to be utilized during the Evidentiary Hearings. The Committee conducted Evidentiary Hearings in San Jose on January 8, 9, 17, 18, 19, 30, and 31, 2001; February 15 and 28, 2001; March 1, 2, 12, 13 and 14, as well as a hearing to receive public comment on March 23, 2001. At these publicly-noticed hearings all parties were afforded the opportunity to present evidence, cross examine witnesses, and to rebut the testimony of other parties, thereby creating an evidentiary record which forms the basis for the Commission Decision. The hearings before the Committee also allowed all parties to argue their positions on disputed matters and provided a forum for the Committee to receive comments from the public and other governmental agencies. During this review process, the Committee issued nearly 50 Orders or Rulings, approximately 32 Notices, and held 20 hearings or conferences.

Formal Intervenors in this process include: California Unions for Reliable Energy, City of Morgan Hill, Santa Teresa Citizens Action Group, Scott and Donna Scholz, Jeffrey Wade, Californians for Renewable Energy, Paul R. Burnett, Robert F. Williams, T.H.E. P.U.B.L.I.C., Michael Murphy, Michael A. Grothus, James L. Cosgrove, Rancho Santa Teresa Swim & Racquet Club, Coyote Valley

Research Park, LLC, and Coyote Valley Properties, LLC, Issa Ajlouny, and Mirant Potrero, LLC.

After reviewing the evidentiary record, the Committee published its Presiding Member's Proposed Decision on June 18, 2001. The 30-day comment period on the PMPD will end on July 19, 2001.

The Committee will conduct a public conference on Thursday, July 26, 2001, in San Jose at the County of Santa Clara General Services Agency Auditorium, to receive comments on the PMPD. If there are no comments that would change the substantive findings and conclusions contained in the PMPD, the Commission will soon thereafter conduct a hearing and consider adoption of the PMPD along with any Errata (containing clarifications and corrections based on comments) at a regularly scheduled Business Meeting.

D. NEED CONFORMANCE

Prior to January 1, 2000, the Public Resources Code directed the Commission to perform an "integrated assessment of need," taking into account 5 and 12-year forecasts of electricity supply and demand, as well as various competing interests, and to adopt the assessment in a biennial electricity report. In order to grant a license, the Commission was required to find that a proposed power plant was in conformance with the adopted integrated assessment of need for new resource additions. [Pub. Resources Code, §§ 25523 (f) and 25524 (a).]

Effective January 1, 2000, Senate Bill 110 (Stats. 1999, ch. 581) repealed Sections 25523 (f) and 25524 (a) of the Public Resources Code, and amended other provisions relating to the assessment of need for new generation resources. Specifically, this legislation removed the requirement that the Commission make a finding of need conformance in a certification Decision. Senate Bill (SB) 110 states in pertinent part:

Before the California electricity industry was restructured, the regulated cost recovery framework for powerplants justified requiring the commission to determine the need for new generation, and site only powerplants for which need was established. Now that powerplant owners are at risk to recover their investments, it is no longer appropriate to make this determination. (Pub. Resources Code, § 25009, added by Stats. 1999, ch. 581, § 1.)

As a result, an Application for Certification (AFC) that reaches final Commission decision after January 1, 2000 is not subject to a determination of need conformance. Since the final decision on the AFC in this case will occur after January 1, 2000, the Commission is not required to include a need conformance finding. Applicant and Staff agree on this interpretation of the pertinent statutory framework. (1/8/01 RT 14; Ex. 7, p. 25.)¹

¹ We note Intervenor Williams believes the “. . . need for new plants is almost solved . . . ” and suggests “grid management” is the pertinent issue. [Williams’ Opening Brief (March 23, 2001), p. 5.] The Commission can, however, address only those matters within its jurisdiction; grid management is not one of them.

I. PROJECT DESCRIPTION AND OBJECTIVES

NOTE: References to the reporter's transcripts (RT) of this proceeding appear throughout this Decision. These are abbreviated according to month, day, year, page and, if necessary, line reference. Thus, the transcript reference for page 10 of a January 2, 2001 hearing would be "1/2/01 RT 10"; reference to lines 7 through 9 of this page would be abbreviated as "1/2/01 RT 10:7-9."

Calpine Corporation and Bechtel Enterprises, Inc. (Applicant), a partnership, is seeking approval to construct and operate the Metcalf Energy Center (MEC), a 600 megawatt (MW), natural gas-fired, combined cycle power plant. The project's actual maximum generating capacity will likely differ from, and could exceed, this nominal megawatt rating.² (Ex. 7, p. 15.)

Applicant is developing the MEC to sell electricity in California's electricity market. Overall anticipated availability for the MEC is between 92 and 98 percent, operating approximately seven days a week, 24 hours a day. The proposed project is a merchant facility, not owned by a utility or its affiliate. (Ex. 7, p.15.)

This section provides an overview of the proposed project and its objectives as described by Applicant and clarified during the evidentiary hearings. This essentially includes the location of the project, its major components, and the major electrical generation systems. In our view, the project clearly encompasses components – such as the linear and other facilities – intrinsically related to the power plant. This approach is consistent with our longstanding interpretation of our enabling statute and implementing regulations, captures the totality of the project as proposed by Applicant (see, e.g. 1/18/01 RT 221, 235),

² The generating capability of combustion turbine generators depends upon certain variables such as ambient temperature, the density of ambient air, or whether steam injection into the expansion turbine section of the machine is employed. The output of steam turbine generators similarly depends upon ambient conditions, as well as the availability of steam produced in the heat recovery steam generators. (1/8/01 RT 293-295.) The testimony indicates that Applicant predicts the likely maximum generation of the power plant “. . . will be something on the order of 580 megawatts” (1/8/01 RT 294:20-22), but that for study purposes the 600 MW characterization was used. (1/8/01/ RT 294:23-25 to 295:1-2.)

and is necessary in order to assess the overall environmental impacts. We thus do not adopt the approach advocated by the City of San Jose (City) which would essentially result in removing certain elements of the project from our review. (See, City Opening Brief (March 23, 2001), pp. 17-18.) Furthermore, we do not address the contentions raised by the City such as the ability of the Commission to approve expansion of the City's recycled water system, wastewater treatment plant, or sanitary sewer system in this portion of our Decision. (City of San Jose, Opening Brief (March 23, 2001), pp. 17-18; see also, Opening Brief of Californians for Renewable Energy (CARE; March 23, 2001, p. 1.) Matters of this nature are addressed in the appropriate portions of this Decision dealing with substantive topic areas. Similarly, we do not address here the City's arguments concerning the persuasive merits of the project's stated objectives (City's Reply Brief (April 4, 2001), pp. 1-2); this matter is deferred to the "Alternatives" discussion.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project Location

The 14-acre MEC site is located partially in the City of San Jose and partially in the County of Santa Clara³ (see **Project Description Figure 1**). The site lies at the southern base of Tulare Hill in northern Coyote Valley to the west of Monterey Highway and the Union Pacific Railroad right-of-way, between Metcalf Road to the north and Blanchard Road to the south. The site is bordered by Fisher Creek to the north and west. (Ex. 6A, p. 2; Ex. 7, p. 15; Applicant's Group 1 and 2 Opening Brief (March 23, 2001), pp. 1-1 – 1-2.)

³ Roughly, the northern two-thirds of the project would be within the County; the remaining one-third within the City. (1/8/01 RT 35-36.)

Project Description – Figure 1 - NOT INCLUDED IN ON-LINE PMPD
Metcalf Energy Center – Regional Setting

Source: Ex. 7, p. 15

This site will accommodate the generation facilities including the on-site landscaping, setbacks, water storage tanks, parking, control/administrative building, water treatment building, cooling tower, switchyard, emission control equipment, and generation equipment. (Applicant's Group 1 and 2 Opening Brief (March 23, 2002), p. 1-2.) Applicant has site control.⁴ (1/8/01 RT 34-35, 98.) The nearest substantial residential development is on the other side of Tulare Hill, approximately one-half mile away. (1/8/01 RT 64.)

A ten acre parcel adjacent to and south of the proposed power plant site will be used temporarily as a laydown area during the construction phase. The laydown area will be returned to its natural preexisting state after construction is completed. (Ex. 6A, p. 2; Ex. 7, p. 15.)

Power Plant

The plant will consist of two combustion turbine generators (CTG) equipped with steam injection power augmentation capabilities; two heat recovery steam turbine generators (HRSG) with duct burners; a single condensing steam turbine generator (STG); a mechanical draft (wet/dry) plume-abated cooling tower; associated support equipment; and a 230-kilovolt (kV) switching station. Natural gas will be burned in the combustion turbine generators. (Ex. 7, pp. 15, 16.)

Each CTG will generate a nominal 185 MW. The CTG exhaust gases will be used to generate steam in the HRSGs. The HRSG units will include 145-foot high exhaust stacks. (Ex. 7, p. 16.) The HRSGs will use reheat design with duct firing. Steam from the HRSGs will be admitted to a condensing STG. The steam turbine will produce a nominal 230 MW. Cooling towers equipped with a plume abatement system will be located at the west end of the site. (Ex. 7, p. 16.) The project is expected to have an overall annual availability in the general range of

⁴ This is based on Applicant's testimony. Statements by Mr. Oliver Kraemer suggest otherwise. (1/30/01 RT 359-361.)

92 to 98 percent. Associated equipment will include selective catalytic reduction (SCR) systems necessary to meet air emissions standards.

The power will be produced by the two CTGs and the STG. (Ex. 6A, p. 4.) Thermal energy will be produced in the CTGs through the combustion of natural gas, which will be converted into the mechanical energy required to drive the combustion turbine compressors and electric generators. Two Siemens-Westinghouse “F” technology CTGs have been selected for MEC. Each CTG system will consist of a CTG with supporting systems and associated auxiliary equipment. The CTGs will have power augmentation capability through the use of steam injection upstream of the turbine section. The CTGs will be equipped with the following required accessories to provide safe and reliable operation: inlet air fogging systems; inlet air filters; single lube oil cooler; dry, low NO_x combustion system; compressor wash system; fire detection and protection system; and fuel heating system. The CTGs and accessory equipment will be contained in metal acoustical enclosures. (Ex. 6A, p. 4.)

CTG combustion air will flow through the inlet air filters and inlet air fogging system along with associated air inlet ductwork, will be compressed and then flow to the CTG combustion sections. Natural gas fuel will be injected into the compressed air in the combustion sections’ combustors and ignited. The hot combustion gases will expand through the turbine sections of the CTGs, causing them to rotate and drive the electric generators and CTG compressors. The hot combustion gases will exit the turbine sections and enter the HRSGs, where they will heat water (feedwater) that will be pumped into the HRSGs.

The feedwater will be converted to superheated steam and delivered to the steam turbine at three pressures: high-pressure (HP), intermediate pressure (IP), and low pressure (LP). High pressure steam, delivered to the HP section of the steam turbine, will exit the HP section as “cold reheat” steam and be combined with IP steam to pass through the reheater section of the HRSGs.

This mixed, reheated steam (called “hot reheat”) will then be delivered to the IP steam turbine section. Steam exiting the IP section of the steam turbine will be mixed with LP steam and expanded in the LP steam turbine section. Steam leaving the LP section of the steam turbine will enter the surface condenser, transfer heat to circulating cooling water, and be condensed to water. The condensed water, or condensate, will be delivered to the HRSG feedwater system. The cooling water will circulate through a cooling tower where the heat will be rejected to the atmosphere. (Ex. 6A; Applicant’s Group 1 and 2 Opening Brief (March 23, 2001), p. 1-4.)

The HRSGs will provide for the transfer of heat from the exhaust gases of the CTGs to the feedwater, which will become steam. The HRSGs will be three-pressure, natural circulation units equipped with inlet and outlet ductwork, duct burners, insulation, lagging, and separate exhaust stacks. Major components of each HRSG will include an LP economizer, LP drum, LP evaporator, LP superheater, IP economizer, IP evaporator, IP drum, IP superheater, HP economizer, HP evaporator, HP drum, and HP superheaters. The LP economizer will receive condensate from the condenser hot well via the condensate pumps. The LP economizer will be the final heat transfer section to receive heat from the combustion gases before they are exhausted to the atmosphere. Duct burners will be installed in the HRSGs. These burners will provide the capability to increase steam generation and greater operating flexibility and improved steam temperature control. The duct burners will burn natural gas. The duct burner for each HRSG will be sized to release up to 200 million British thermal units (MMBTUs higher heating value basis) per hour per HRSG. (Ex. 6A.)

The HRSGs will be equipped with an SCR emission control system that will use aqueous ammonia in the presence of a catalyst to chemically reduce the oxides of nitrogen (NO_x) in the CTG exhaust gas to nitrogen and water, thereby

reducing the concentration of NO_x in the exhaust gases. The catalyst modules will be located in the HRSG casings. (1/8/01 RT 28; Ex. 6A, p. 5.)

The STG will consist of a reheat steam turbine, gland steam system, lubricating oil system, hydraulic control system, and steam admission/induction valving.

The bulk of the electric power produced by the facility will be transmitted to the Pacific Gas and Electric (PG&E) grid. Some power will be used on-site to power auxiliaries such as pumps and fans, control systems, and general facility loads, including lighting, heating, and air conditioning. Some will also be converted from alternating current (AC) to direct current (DC) to power protective relays, and for use as backup power for control systems and for other uses.

Applicant proposes an architectural treatment (architectural screening/façade) around the Heat Recovery Steam Generators intended to make the plant consistent with the design qualities of the office structures planned for the adjacent industrial lands and to make the plant attractive in its own right. (1/8/01 RT 27-28; Ex. 4; Ex. 5; Ex. 6A, pp. 1-2; Ex. 7, p. 16.)

Access

A 900-foot long, two-lane road and railroad crossing, built to city standards, will allow access to the site from Monterey Highway. The road will cross the Union Pacific Railroad right-of-way at Blanchard Road and parallel the tracks north to the MEC site. Ultimately, Applicant proposes to construct a 1500-foot long, two lane western access road if and when dedicated city streets are developed for the Coyote Valley Research Park and Calpine/Bechtel is granted the necessary rights to access this road system. (Ex. 7, p. 16; Applicant's Group 1 and 2 Opening Brief (March 23, 2001), pp. 1-2 to 1-3.)

The project site is adjacent to the area's main rail line. Applicant will install a temporary rail spur so that large pieces of equipment may be delivered during construction. (1/8/01 RT 26.) The spur will be removed following completion of construction. (Ex. 6A, p. 3.)

Linear Facilities

The linear facilities (electric transmission line, natural gas line, and water supply and wastewater lines) are described below and are depicted on the **Project Description Figure 2 Local Setting** map. (Ex. 7, p. 16.)

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Project Description – Figure 2 - NOT INCLUDED IN ON-LINE PMPD
Metcalf Energy Center – Local Setting

Source: Ex. 7, p. 16

The power plant is adjacent to existing PG&E transmission lines that are connected to the Metcalf Substation. Electricity generated by MEC will be delivered to the transmission grid via a new 230 kV transmission tie-line approximately 240 feet in length. This overhead line will connect into PG&E's existing 230 kV Metcalf-Monte Vista No. 4 line which runs east-west along the northern edge of the project boundary. No new transmission towers will be required. (1/8/01 RT 24-25; Ex. 6A, p. 1; Applicant's Group 1 and 2 Opening Brief (March 23, 2001), p. 1-2.)

The project will use approximately 2.9 to 5.8 million gallons of recycled water per day for cooling purposes. Applicant proposes to obtain this water supply from the South Bay Water Recycling Program (SBWR) through one of two local water retailers: San Jose Municipal Water Division (MUNI); or Great Oaks Water Company. This will necessitate the construction of a new 10.2-mile, 20-inch recycled water supply line. The recycled water pipeline would begin north of the power plant site and weave its way along paved city streets, traveling primarily through residential and commercial areas, until reaching Fisher Creek at Santa Teresa Boulevard. South of Fisher Creek the recycled water pipeline would turn northeast, travelling through agricultural land on its way to the MEC site. (Ex. 7, p. 17; Applicant's Group 1 and 2 Opening Brief (March 23, 2001), p. 1-2.)

More specifically, the route begins at the intersection of Sylvandale and Senter Road, follows the latter southeast, then west approximately 1.4 miles to Monterey Road. The route continues approximately one-half mile along Monterey Road to Skyway Drive. It then turns southwest, following Skyway Drive for about four-tenths of a mile to Snell Avenue. On Snell Avenue, the route proceeds approximately seven tenths of a mile to Chenoweth Avenue, where it turns east. It continues approximately four miles east on Chenoweth, south on Lean Avenue, east on Blossom Hill Road, south on Beswick Drive, takes a slight jog on Cottle Road to head east on Raleigh Road, south on Endicott Boulevard, southeast along While Plains Road, crosses under Highway 85, and heads southeast along

Via Del Oro to Great Oaks Boulevard, where it then heads southwest to Santa Teresa Boulevard. At that point, the pipeline route proceeds along Santa Teresa Boulevard to the plant site. (1/18/01 RT 88-89.)

Back-up water will be supplied either by the water retailer or by wells located on-site or approximately one mile south of the project. Domestic water supply pipelines include a 1.25-mile, 24-inch pipeline along the western portion of the railroad right-of-way from the MEC to San Jose MUNI Well 23 near Bailey Road and a pipeline from the MEC site to Great Oaks Water Company's system located on Santa Teresa Boulevard. (Ex. 7, p. 17.)

A combined industrial wastewater and sanitary sewer line (less than a mile in length) will be constructed along Fisher Creek to the City's existing sanitary sewer line that runs along Santa Teresa Boulevard.

During baseload operations, it is expected that the project will use a maximum of 99,000 MMBTUs/day of natural gas. Applicant proposes to build a new 16-inch diameter fuel gas pipeline from the MEC to PG&E's existing Line 300, a major natural gas transmission line along the eastern side of US 101. The gas pipeline is sized to permit operation of the turbines and duct burners at full power. (Ex. 7, p. 17.) A gas metering station will be installed at the backbone pipeline. (Ex. 12.)

About one-third of the gas pipeline route is within the City of San Jose and the remainder is within unincorporated Santa Clara County. Existing land use along the gas pipeline is primarily park, vacant, and agricultural land. The route traverses areas designated PL (Other Public Open Lands) and P (Regional Parks, Existing) on the County Land Use Plan and Campus Industrial on the San Jose Land Use Diagram. (Ex. 7, p. 17.)

Construction and Operation

Calpine/Bechtel estimates the capital costs of the Metcalf Energy Center to be \$300-\$400 million. Applicant expects to employ a peak construction workforce of about 400 over a two-year period and a permanent workforce of 20 for plant operations. Construction payroll costs are estimated to be \$40.8 million, while the annual operations payroll is expected to be \$1 million. (Ex. 7, p. 15.)

Construction of the MEC, from site preparation to commercial operation, is expected to take approximately 18 to 24 months. Applicant anticipates commercial operation by the summer of 2003. (1/8/01 RT 88-90; Ex. 7, p. 15.)

Project Objectives

In summary, the principal objectives of the project are to:

- Generate and sell power in a deregulated marketplace;
- Locate a generation facility in the south San Francisco Bay Area on an adequate and available site;
- Locate the facility near transmission lines in order to reduce congestion;
- Improve Bay Area transmission grid reliability;
- Minimize economic costs by locating the project near existing infrastructure, including transmission facilities with adequate capacity to allow the power generating facility to operate as a merchant plant; and
- Minimize environmental impacts.

(1/8/01 RT 23-29; Applicant's Group 1 and 2 Opening Brief, (March 23, 2001), pp. 1-6 to 1-11.)

Finally, we note Applicant has represented that the power generated will be sold and used in California. (1/30/01 RT 71-72, 148:21-24, 207:12-17.)

FINDINGS and CONCLUSIONS

Based upon the evidence of record, and we find and conclude as follows:

1. The project objective is to construct and operate a 600 megawatt (MW), natural gas-fired, combined cycle merchant power plant in the south San Francisco Bay Area.
2. As proposed by Applicant, the Metcalf Energy Center project consists of the power generation equipment, the transmission interconnection, the raw and potable water supply pipelines, the waste discharge line, the natural gas supply pipeline, and related facilities.
3. Applicant proposes to obtain cooling water from the South Bay Water Recycling Program, through one of two local retailers.
4. Applicant proposes that process make-up water and domestic water will be supplied either by the San Jose Municipal Water System, the Great Oaks Water Company, or from wells. Domestic water supply may include a pipeline from the San Jose municipal system or a pipeline from the Great Oaks Water Company's system.
5. Applicant proposes to transport combined sanitary and industrial wastewater via a forced main that will connect to San Jose's existing sewer system along Santa Teresa Boulevard.
6. The evidence of record contains a detailed analysis of the project as proposed by Applicant.

We therefore conclude that the Metcalf Energy Center is described at a level of detail sufficient to allow review in compliance with the provisions of both the Warren-Alquist and the California Environmental Quality Acts.